

WHAT IS CLAIMED IS:

1. A high-temperature secondary battery based energy storage and power compensation system, comprising:

5 an electric power supply system;

an electric load ;

an electric energy storage system including a high-temperature secondary battery and a power conversion system,

10 wherein the electric power supply system, the electric load and the electric energy storage system are electrically connected, and from which, when operating normally, electric power is supplied to the electric load while the electric energy storage system operates to effect peak shaving running and load leveling running; and

15 a high speed switch provided between the electric power supply system and the electric energy storage system;

when a voltage sag or a service interruption occurs in the electric power being supplied from the electric power supply system, the voltage sag is immediately detected,
20 circuit is temporarily shut off, electric power is immediately supplied from the electric energy storage system to the electric load in order to compensate for the voltage sag or the service interruption.

25 2. A high-temperature secondary battery based energy

storage and power compensation system according to claim 1, wherein the high-temperature secondary battery is a sodium sulfur battery.

5 3. A high-temperature secondary battery based energy storage and power compensation system according to claim 1, wherein the energy storage system for compensating for the voltage sag or the service interruption is a system capable of outputting a compensation electric power which is 3 to 8
10 times a rated electric power of the peak shaving running and the load leveling running.

 4. A high-temperature secondary battery based energy storage and power compensation system according to claim 1,
15 further comprising: a back-up generator which is connected to the circuit on the electric power compensation side of the high speed switch;

 a voltage compensation controller capable of detecting a circuit shut-off effected by the high speed switch,
20 sending a command in accordance with a detection signal to cause the energy storage system to discharge an entire electric load, and, at the same time, starting the back-up generator, so that if the electric power supply is not restored within a predetermined time period, the back-up
25 generator is connected in parallel with the system, while at

the same time the electric power supply from the energy storage system is stopped.

5 5. A high-temperature secondary battery based energy
storage and power compensation system comprising the
electric power supply system, the electric load, and the
electric energy storage system including the high-
temperature secondary battery and the power conversion
system; all of which being electrically connected with one
10 another so as to supply an electric power from the electric
power supply system to the electric load under normal
operation conditions, and operating the electric energy
storage system in order to effect peak shaving running and
load leveling running according to claim 1, wherein said
15 system further comprises a control function capable of
coping with a fluctuation derived from an event such as a
spike and a frequency fluctuation in the electric power
supplied, by detecting immediately such an event, and
sending a signal based on detection to the electric energy
20 storage system in order to compensate for the fluctuation.

6. A high-temperature secondary battery based energy
storage and power compensation system according to claim 1,
wherein spare high temperature batteries connected in
25 parallel with module high temperature batteries are provided

1977th	1980th	1981th	1982th	1983th	1984th	1985th	1986th	1987th	1988th	1989th	1990th	1991th	1992th	1993th	1994th	1995th	1996th	1997th	1998th	1999th	2000th	2001th	2002th	2003th	2004th	2005th	2006th	2007th	2008th	2009th	2010th	2011th	2012th	2013th	2014th	2015th	2016th	2017th	2018th	2019th	2020th	2021th	2022th	2023th	2024th	2025th	2026th	2027th	2028th	2029th	2030th	2031th	2032th	2033th	2034th	2035th	2036th	2037th	2038th	2039th	2040th	2041th	2042th	2043th	2044th	2045th	2046th	2047th	2048th	2049th	2050th	2051th	2052th	2053th	2054th	2055th	2056th	2057th	2058th	2059th	2060th	2061th	2062th	2063th	2064th	2065th	2066th	2067th	2068th	2069th	2070th	2071th	2072th	2073th	2074th	2075th	2076th	2077th	2078th	2079th	2080th	2081th	2082th	2083th	2084th	2085th	2086th	2087th	2088th	2089th	2090th	2091th	2092th	2093th	2094th	2095th	2096th	2097th	2098th	2099th	2100th	2101th	2102th	2103th	2104th	2105th	2106th	2107th	2108th	2109th	2110th	2111th	2112th	2113th	2114th	2115th	2116th	2117th	2118th	2119th	2120th	2121th	2122th	2123th	2124th	2125th	2126th	2127th	2128th	2129th	2130th	2131th	2132th	2133th	2134th	2135th	2136th	2137th	2138th	2139th	2140th	2141th	2142th	2143th	2144th	2145th	2146th	2147th	2148th	2149th	2150th	2151th	2152th	2153th	2154th	2155th	2156th	2157th	2158th	2159th	2160th	2161th	2162th	2163th	2164th	2165th	2166th	2167th	2168th	2169th	2170th	2171th	2172th	2173th	2174th	2175th	2176th	2177th	2178th	2179th	2180th	2181th	2182th	2183th	2184th	2185th	2186th	2187th	2188th	2189th	2190th	2191th	2192th	2193th	2194th	2195th	2196th	2197th	2198th	2199th	2200th	2201th	2202th	2203th	2204th	2205th	2206th	2207th	2208th	2209th	2210th	2211th	2212th	2213th	2214th	2215th	2216th	2217th	2218th	2219th	2220th	2221th	2222th	2223th	2224th	2225th	2226th	2227th	2228th	2229th	2230th	2231th	2232th	2233th	2234th	2235th	2236th	2237th	2238th	2239th	2240th	2241th	2242th	2243th	2244th	2245th	2246th	2247th	2248th	2249th	2250th	2251th	2252th	2253th	2254th	2255th	2256th	2257th	2258th	2259th	2260th	2261th	2262th	2263th	2264th	2265th	2266th	2267th	2268th	2269th	2270th	2271th	2272th	2273th	2274th	2275th	2276th	2277th	2278th	2279th	2280th	2281th	2282th	2283th	2284th	2285th	2286th	2287th	2288th	2289th	2290th	2291th	2292th	2293th	2294th	2295th	2296th	2297th	2298th	2299th	2300th	2301th	2302th	2303th	2304th	2305th	2306th	2307th	2308th	2309th	2310th	2311th	2312th	2313th	2314th	2315th	2316th	2317th	2318th	2319th	2320th	2321th	2322th	2323th	2324th	2325th	2326th	2327th	2328th	2329th	2330th	2331th	2332th	2333th	2334th	2335th	2336th	2337th	2338th	2339th	2340th	2341th	2342th	2343th	2344th	2345th	2346th	2347th	2348th	2349th	2350th	2351th	2352th	2353th	2354th	2355th	2356th	2357th	2358th	2359th	2360th	2361th	2362th	2363th	2364th	2365th	2366th	2367th	2368th	2369th	2370th	2371th	2372th	2373th	2374th	2375th	2376th	2377th	2378th	2379th	2380th	2381th	2382th	2383th	2384th	2385th	2386th	2387th
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